

Crossarchus ansorgei. By Harry Van Rompaey and Marc Colyn

Published 5 June 1992 by The American Society of Mammalogists

Crossarchus Cuvier, 1825

Crossarchus Cuvier, 1825:3. Type genus *Crossarchus obscurus* F. Cuvier, by original designation.

CONTEXT AND CONTENT. Order Carnivora, Family Herpestidae. Subfamily Mungotinae. The genus *Crossarchus* contains four species: *C. obscurus*, *C. platycephalus*, *C. alexandri*, and *C. ansorgei* (Goldman, 1984). Wozencraft (1989) considered *C. platycephalus* a subspecies of *C. obscurus*. A key to the species follows (based on Goldman, 1984; Colyn and Van Rompaey, 1990):

- 1 Head and body length ≤ 342 mm; condylobasal length ≤ 66 mm; length of rostrum about 31.5% of condylobasal length *C. ansorgei*
Head and body length from 316 to 369 mm; condylobasal length from 64.8 to 75.5 mm; length of rostrum 34-36% of condylobasal length 2
- 2 No crest or pair of whorls present in the nape *C. obscurus*
Conspicuous nuchal crest of hair present only along the midline immediately posterior to the ears, about 30-40 mm in length *C. platycephalus*
- 3 Head and body length ≥ 364 mm; condylobasal length ≥ 74 mm; length of rostrum 34-36% of condylobasal length; conspicuous pair of whorls on the nape *C. alexandri*

Crossarchus ansorgei Thomas, 1910

Ansorge's Cusimanse

Crossarchus ansorgei Thomas, 1910:195. Type locality "Dalla Tando. Alt. 800 m.," Angola.

CONTEXT and CONTENT. Context as in generic summary above. Two subspecies of *C. ansorgei* are recognized:

C. a. ansorgei Thomas, 1910, see above.

C. a. nigricolor Colyn and Van Rompaey, 1990:95. Type locality "Amadjabe (00°04'S, 25°17'E), between the Lusa and Kitchoya-tembo Rivers, Zaire."

DIAGNOSIS. *Crossarchus* is distinguished from other Herpestidae by five upper cheekteeth, five digits on fore and hindfeet, sole of hindfoot hairy on the proximal quarter, upper parts grizzled, dense underfur, and ectotympanic bullae inflated but much less than entotympanic bullae (Coetzee, 1977; Goldman, 1987; Rosevear, 1974).

Crossarchus ansorgei is clearly distinguished from the other *Crossarchus* by the less elongated snout: length of rostrum is nearly 31.5% of condylobasal length in *C. ansorgei*, but 34-36% in *C. obscurus*, *C. platycephalus*, and *C. alexandri*. In Zaire, *C. ansorgei* is sympatric with *C. alexandri* but is smaller: length of head and body ≤ 342 mm; condylobasal length of the skull ≤ 67 mm (Colyn and Van Rompaey, 1990); length of head and body of *C. alexandri* ≥ 364 mm; condylobasal length of the skull of *C. alexandri* ≥ 74.0 mm. The length of the postdental palate is about one-half its width in *C. ansorgei* but is subequal in *C. alexandri* (Coetzee, 1977).

GENERAL CHARACTERS. External measurements (in mm) of an adult female (Thomas, 1910) and an adult male (Colyn, 1984) are: total length, 532, 550; length of tail, 221, 208; length of hindfoot, 60, 70; length of ear, 24, —. The body mass of an adult male was 700 g (Colyn, 1984). Ears are short and round; area between digital pads and plantar pad is naked in fore and hind feet; heel of hind foot is naked over a distance of 20 mm; claws are long and curved, especially on forefeet; underfur is brownish.

Crossarchus a. ansorgei has a reddish-brown color and the hairs are annulated. The crown is darker and the face paler than the rest of the body. It has no facial stripe and only the forearms,

toes of the hind feet, nuchal crest, and distal part of the tail are blackish. *C. a. nigricolor* (Fig. 1) shows the same form and external measurements as the nominate form but the general coloration is sepia black. The back, flanks, neck, and head are speckled with hairs annulated with white or yellow ochre. A darker dorsal medial line extends from the nuchal crest to the base of the tail. The underparts, tail, and limbs are completely blackish. Chin and muzzle are dirty white. A white to yellow-ochreous stripe extends from the corner of the mouth under the external ear to the side of the neck (Fig. 1). A whitish tuft decorates the internal base of the ear (Colyn and Van Rompaey, 1990). The tail of the male appears to be more bushy than that of the female (Colyn, 1984; Colyn and Van Rompaey, 1990).

Skulls show no sexual dimorphism in size (Colyn, 1984). Mean skull measurements (in mm, range in parentheses) of 53 specimens (Colyn and Van Rompaey, 1990) are: greatest length of skull, 64.1 (60.3-66.9); condylobasal length, 62.6 (59.4-65.9); length of rostrum, 19.7 (18.1-21.0); length of palate, 28.9 (26.0-30.9); length of maxillary tooththrow, 21.3 (19.7-22.9); length of tympanic bulla, 13.2 (12.4-14.3); distance between canines, 11.6 (10.8-12.7); width of rostrum, 15.2 (14.1-16.6); interorbital width, 12.4 (11.1-13.7); width of palate, 19.1 (17.5-20.8); zygomatic width, 33.4 (31.2-35.2); width of braincase, 25.3 (23.8-26.5); width of mastoid, 27.0 (25.1-28.7); height of braincase, 21.0 (19.5-22.3); length of mandible, 42.5 (39.3-45.0); length of mandibular tooththrow, 23.7 (22.1-25.0); height of mandible, 16.5 (14.1-18.1).

DISTRIBUTION. *Crossarchus ansorgei* inhabits the high forest south of the Zaire River and west of the Lualaba River, Zaire, and the southernmost portion of the Dembos Forest, north of the Cuanza River, Angola (Fig. 3). *C. ansorgei* has been collected from the type locality in northern Angola (Dalla Tando = Ndala Tando; 0°18'S, 14°54'E) and five localities in Zaire: Amadjabe (00°04'S, 25°17'E), Baringa (00°45'N, 20°52'E), Ikela (01°11'S, 23°16'E), Kodoro (01°16'N, 20°06'E), and Yaenaro Plantation (00°12'N, 24°47'E; Thomas, 1910; Coetzee, 1977; Colyn and Van Rompaey, 1990). Thus the known distribution in Zaire (Fig. 3) is in the rain forest southeast of the Zaire/Lualaba rivers. The species is quite common in the Subregion Tshopo (part of the Région Haut-Zaïre, south of Kisangani) but it is unlikely that it may range to central Kivu, as suggested by Coetzee (1977), where it has never been collected in spite of numerous expeditions by the Institut de Recherches Scientifiques de Bukavu; nor has the species been collected or known to natives north and east of the Zaire/Lualaba rivers (Colyn, 1984). The type locality lies in the southernmost portion of the Dembos forest, north of the Cuanza river, Angola (Goldman, 1984). According to Crawford-Cabral (1987) it would be confined to the northern part of the escarpment zone in Angola.



FIG. 1. Female adult *Crossarchus ansorgei nigricolor*. Collected at Amadjabe, Zaire. Collection of M. Colyn. Photograph by C. M. Anthierens.

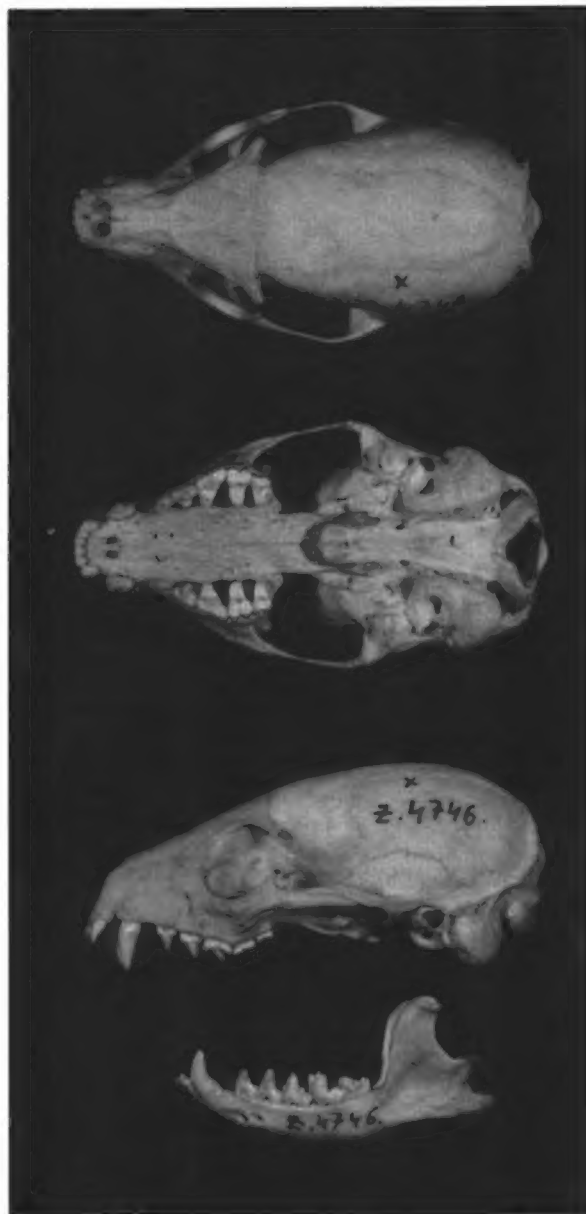


FIG. 2. Dorsal, ventral, and lateral views of cranium, and lateral view of mandible of *Crossarchus ansorgei nigricolor*. Sex of animal is unknown; collected at Amadjabe, Zaire. Condylbasal length of cranium is 60.4 mm. Collection of M. Colyn, no. Z4746. Photographs by C. M. Anthierens.

FOSSIL RECORD. *Crossarchus transvaalensis* was described from a mandibular ramus with teeth resembling those of *C. alexandri*, from an early Pleistocene cave at Bolt's Farm, Transvaal, Republic of South Africa (Broom, 1937). An early Pleistocene fossil from Olduvai I, Tanzania, also was considered as a *Crossarchus* (Savage, 1978). A first upper molar of a *Crossarchus*, found during excavations at Ntadi Yomba (13°46'E, 4°15'S), Republic of Congo, dates from approximately 7,000 years ago; the associated fauna indicates an environment similar to that of today, but more wooded (Van Neer and Lanfranchi, 1985). The cheekteeth of *Crossarchus* and *Mungos* are similar (Gregory and Hellman, 1939), and the assignment of *C. transvaalensis* to *Crossarchus* is somewhat doubtful (Goldman, 1987).

FORM AND FUNCTION. The skull is much like that of *C. alexandri*, but the bullae are more inflated; the hard palate is relatively shorter and most often with evenly emarginated posterior border, sometimes with a small posteromedial spinous projection; the shape of the palatine is not considered diagnostic. A sagittal crest is present only in the interparietal region (Hill and Carter, 1941;

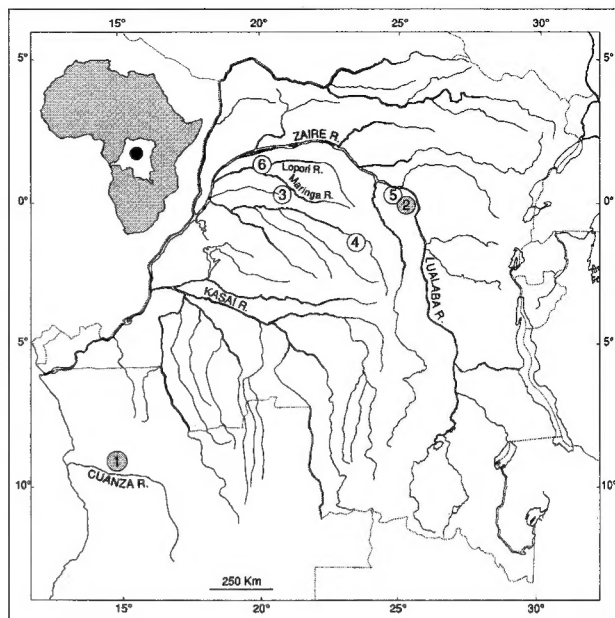


FIG. 3. Distribution of *Crossarchus ansorgei*, limited to south-west of the Zaire/Lualaba river system in Zaire and the Dembos forest, north of the Cuanza River, Angola. Localities where specimens have been collected: Angola: *C. ansorgei ansorgei*: 1, Dalla Tando; Zaire: *C. ansorgei nigricolor*: 2, Amadjabe; 3, Baringa; 4, Ikela; 5, Yaenero Plantation; 6, Kodoro. Shaded circles denote type localities.

Fig. 2). The dental formula is $i\ 3/3$, $c\ 1/1$, $p\ 3/3$, $m\ 2/2$, total 36. P1 and p1 are absent.

ECOLOGY. All specimens have been collected in deciduous rain forest. According to the native hunters from the region of Amadjabe the behavior of *C. ansorgei* is similar to that of *C. alexandri*. The species is gregarious and may occur in packs of ≥ 20 ; it chiefly is diurnal, and it keeps to the forest; contrary to *C. alexandri*, it never visits cultivated or inhabited land (Colyn, 1984).

Diet includes small vertebrates, insects, larvae, and eggs. An adult male and juvenile female were kept in captivity for nearly a month. They systematically refused fruits, mushrooms, and berries in favor of a carnivorous and insectivorous diet (Colyn, 1984). In the region of the Ubilo River, Zaire, *C. ansorgei* accounted for 27% of the carnivores hunted for consumption by local people; Ansorge's cusimanse is the most frequently killed mammal accounting for 6% of all mammal species hunted (Colyn et al., 1987).

REMARKS. The holotype was collected 25 November 1908 by W. J. Ansorge in a relic forest near Dalla Tando, N. Angola (Thomas, 1910). Coetzee (1977) mentioned a second specimen in the British Museum (London), collected from Baringa on the Maringa River in equatorial Zaire. Colyn (1984) collected 21 specimens from Amadjabe, where later on more specimens were collected, as well as from Kodoro, in the basin of the Lopori/Maringa Rivers, and from Yaenero Plantation. A *C. ansorgei* skin was discovered in the *C. alexandri* collection of the Koninklijk Museum voor Midden-Afrika, Tervuren, Belgium (Colyn and Van Rompaey, 1990).

Crossarchus is coined from the Greek words *crossotos* meaning fringed and *archos* meaning anus, with reference to the wrinkled folds of the circumanal glandular sac (Rosevear, 1974). The species was named after the collector of the type specimen, W. J. Ansorge.

Natives from the region around Amadjabe call it *soflingi* (Colyn, 1984). It also has been called Angolan mongoose (Dorst and Dandelot, 1970).

We are grateful to C. M. Anthierens for the photographs and to the reviewers, C. A. Goldman and W. C. Wozencraft, for their helpful criticism of this paper.

LITERATURE CITED

BROOM, R. 1937. Notices of a few more new fossil mammals from the caves of the Transvaal. *Annals and Magazine of Natural History*, Ser. 10, 20:509-514.

- COETZEE, C. G. 1977. Order Carnivora. Pp. 1-42, in *The mammals of Africa: an identification manual* (J. A. J. Meester and H. W. Setzer, eds.). Part 8. Smithsonian Institution Press. Washington, D.C., 15 parts (numbered individually).
- COLYN, M. 1984. *Crossarchus ansorgei* Thomas 1910 (Carnivora, Viverridae), seconde récolte en République du Zaïre. *Annales de la Faculté des Sciences, Kisangani*, 2:79-86.
- COLYN, M., AND H. VAN ROMPAEY. 1990. *Crossarchus ansorgei nigricolor*, a new subspecies of Ansorge's cusimanse (Carnivora, Viverridae) from south-central Zaïre. *Zeitschrift für Säugetierkunde*, 55:94-98.
- COLYN, M., A. DUDU, AND M. MANKOTO MA MBAELELE. 1987. Exploitation du petit et moyen gibier des forêts ombrophiles du Zaïre. 1. Consommation qualitative dans le milieu rural. 2. Analyse de l'effet relatif de la commercialisation du gibier à Kisangani (Haut-Zaïre). *Nature et Faune*, 3:22-39.
- CRAWFORD-CABRAL, J. 1987 [1989]. Distributional data and notes on Angolan carnivores (Mammalia: Carnivora). *Garcia de Orta, Sér Zool.*, 14:3-27.
- CUVIER, F. 1825. In Geoffroy and Cuvier. *Histoire Naturelle des Mammifères*, vol. 3, Livraison 47 (La mangue), pp. 1-3. A. Belin, Paris.
- DORST, J., AND P. DANDELLOT. 1970. A field guide to the larger mammals of Africa. Collins, London, 287 pp.
- GOLDMAN, C. A. 1984. Systematic revision of the African mongoose genus *Crossarchus* (Mammalia, Viverridae). *Canadian Journal of Zoology*, 62:1618-1630.
- . 1987. *Crossarchus obscurus*. *Mammalian Species* 290: 1-5.
- GREGORY, W. K., AND M. HELLMAN. 1939. On the evolution and major classification of the civets (Viverridae) and allied fossil and recent Carnivora: a phylogenetic study of the skull and dentition. *Proceedings of the American Philosophical Society*, 81:309-392.
- HILL, J. E., AND T. D. CARTER. 1941. The mammals of Angola. *Bulletin of the American Museum of Natural History*, 78:1-211.
- ROSEVEAR, D. R. 1974. The carnivores of West Africa. Trustees of the British Museum (Natural History), London, 548 pp.
- SAVAGE, R. J. C. 1978. Carnivora. Pp. 249-267, in *Evolution of African mammals* (V. J. Maglio and H. B. S. Cooke, eds.). Harvard University Press, Cambridge, 641 pp.
- THOMAS, O. 1910. Further new African mammals. *Annals and Magazine of Natural History*, Ser. 8, 5:191-202.
- VAN NEER, W., AND R. LANFRANCHI. 1985. Etude de la faune découverte dans l'abri tshitolien de Ntadi Yomba (République Populaire de Congo). *L'Anthropologie*, 2:351-364.
- WOZENCRAFT, W. C. 1989. Classification of the recent Carnivora. Pp. 569-593, in *Carnivore behavior, ecology, and evolution* (J. L. Gittleman, ed.). Chapman and Hall, London, 620 pp.
- Editors of this account were TROY L. BEST, GUY N. CAMERON, and KARL F. KOOPMAN. Managing editor was CRAIG S. HOOD.
- H. VAN ROMPAEY, JAN VERBERTLEI, 15, 2650 EDEGEM, BELGIUM.
M. COLYN, STATION BIOLOGIQUE DE PAIMPONT, 35380 PAIMPONT, FRANCE.